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<220> FEATURE:
<223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic primer

<400> SEQUENCE: 61

gccatccaca gtcttctggg t 21

1. A method for treating or preventing cancer in a subject in need thereof comprising administering to the subject an effective amount of at least one CRACC composition, said composition comprising a non-naturally occurring vector comprising:

i) a nucleic acid sequence encoding the amino acid sequence of at least one CD2-like receptor activating cytotoxic cell gene (CRACC) fusion, which has at least 50% sequence identity to the amino acid sequence set forth in Table 5;

ii) a nucleic acid sequence of a CRACC fusion, which has at least 50% sequence identity to the nucleotide sequence set forth in Table 6;

iii) a nucleic acid sequence encoding the amino acid sequence of at least one extracellular domain (ECD) of CRACC, which has at least 50% sequence identity to the amino acid set forth in Table 1; said ECD is linked to a nucleic acid sequence encoding the amino acid sequence of at least one Fc constant region or Fc constant domain (Fc), which has 50% sequence identity to the amino acid sequence set forth in Table 3; or

iv) a nucleic acid sequence of at least one ECD of CRACC, which has at least 50% sequence identity to the nucleotide sequence set forth in Table 2; said ECD is linked to a nucleic acid sequence of at least one Fc, which has 50% sequence identity to the amino acid sequence set forth in Table 4;

to thereby treat or prevent cancer in the subject.

2. A method for treating or preventing a pathogenic infection in a subject in need thereof comprising administering to the subject an effective amount of at least one CRACC composition, said composition comprising a non-naturally occurring vector comprising:

i) a nucleic acid sequence encoding the amino acid sequence of at least one CRACC fusion, which has at least 50% sequence identity to the amino acid sequence set forth in Table 5;

ii) a nucleic acid sequence of a CRACC fusion, which has at least 50% sequence identity to the nucleotide sequence set forth in Table 6;

iii) a nucleic acid sequence encoding the amino acid sequence of at least one ECD of CRACC, which has at least 50% sequence identity to the amino acid set forth in Table 1; said ECD is linked to a nucleic acid sequence encoding the amino acid sequence of at least one Fc, which has 50% sequence identity to the amino acid sequence set forth in Table 3; or

iv) a nucleic acid sequence of at least one ECD of CRACC, which has at least 50% sequence identity to the nucleotide sequence set forth in Table 2; said ECD is linked to a nucleic acid sequence of at least one Fc, which has 50% sequence identity to the amino acid sequence set forth in Table 4;

to thereby treat or prevent a pathogenic infection in the subject.

3. (canceled)

4. A method of treating a subject having a condition that would benefit from upregulation of an immune response comprising administering to the subject an effective amount of at least one CRACC composition, said composition comprising a non-naturally occurring vector comprising:

i) a nucleic acid sequence encoding the amino acid sequence of at least one CRACC fusion, which has at least 50% sequence identity to the amino acid sequence set forth in Table 5;

ii) a nucleic acid sequence of a CRACC fusion, which has at least 50% sequence identity to the nucleotide sequence set forth in Table 6;

iii) a nucleic acid sequence encoding the amino acid sequence of at least one ECD of CRACC, which has at least 50% sequence identity to the amino acid set forth in Table 1; said ECD is linked to a nucleic acid sequence encoding the amino acid sequence of at least one Fc, which has 50% sequence identity to the amino acid sequence set forth in Table 3; or

iv) a nucleic acid sequence of at least one ECD of CRACC, which has at least 50% sequence identity to the nucleotide sequence set forth in Table 2; said ECD is linked to a nucleic acid sequence of at least one Fc, which has 50% sequence identity to the amino acid sequence set forth in Table 4;

to thereby modulate a CRACC-dependent pathway such that the condition that would benefit from upregulation of an immune response is treated.

5. The method of claim 1, wherein the immune response is induced or enhanced, or stimulated in the mammal.

6. The method of claim 1, further comprising administering one or more additional compositions or therapies that upregulates an immune response or treats the condition selected from the group consisting of anti-viral therapy, immunotherapy, chemotherapy, radiation, and surgery.

7. (canceled)

8. The method of claim 1, wherein the at least one CRACC fusion set forth in i)-iv) has at least two, three, four, five, six, seven, eight, nine, ten, or more mutations, wherein the at least one mutation is a non-naturally occurring mutation.

9. (canceled)

10. The method of claim 1, wherein the non-naturally occurring vector is selected from the group consisting of adenovirus, adeno-associated virus (AAV), retrovirus, and lentivirus.

11-16. (canceled)

17. The method of claim 10, wherein the adenovirus is human adenovirus serotype 5.